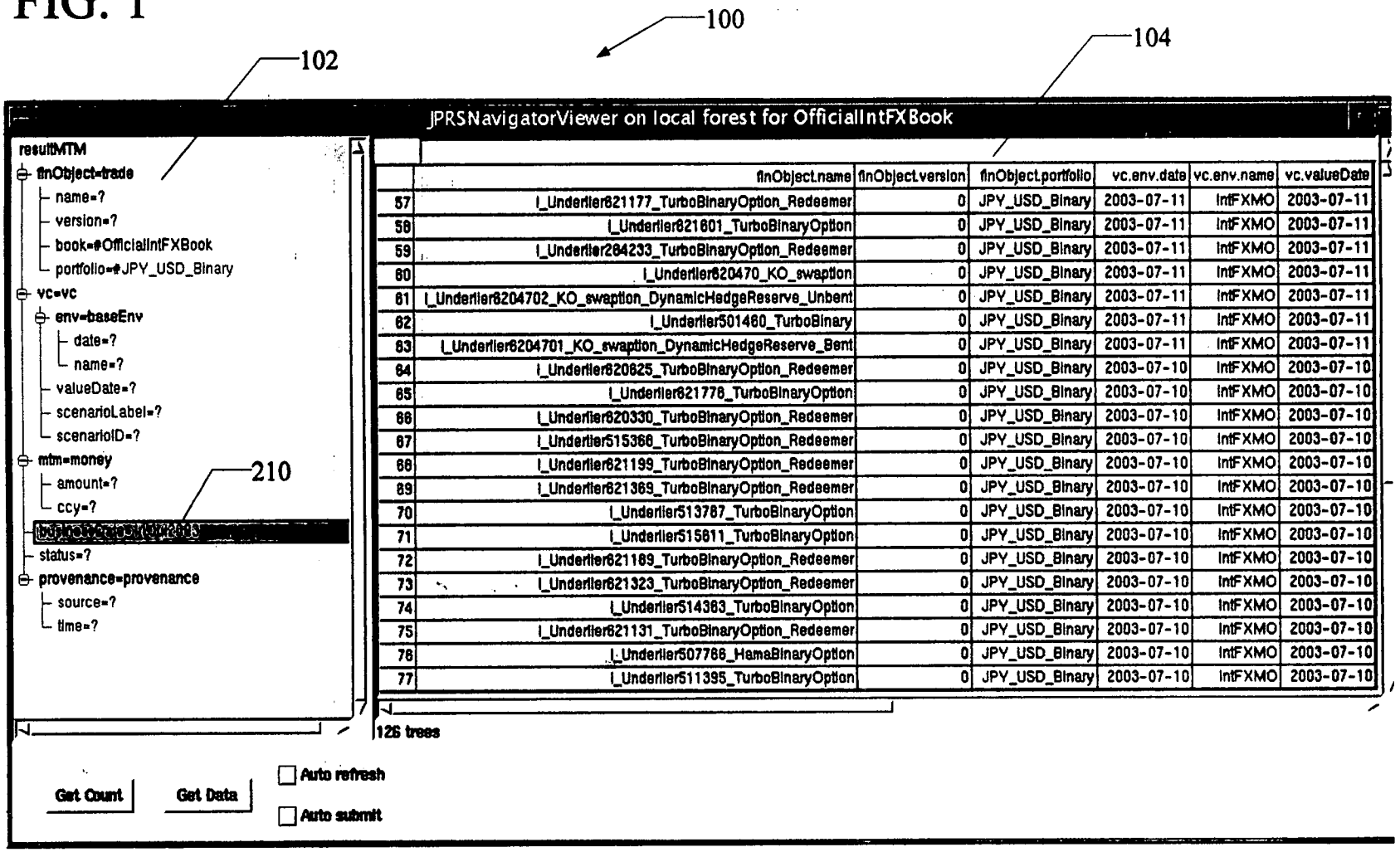
FIG. 1



	finObject.name	finObject.version	finObject.portfolio	vc.env.date	vc.env.name	vc.valueDate
57	l_Underlier621177_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
58	l_Underlier621601_TurboBinaryOption	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
59	l_Underlier284233_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
60	l_Underlier620470_KO_swaption	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
61	l_Underlier6204702_KO_swaption_DynamicHedgeReserve_Unbent	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
62	l_Underlier501460_TurboBinary	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
63	l_Underlier6204701_KO_swaption_DynamicHedgeReserve_Bent	0	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11
64	l_Underlier620625_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
65	l_Underlier621778_TurboBinaryOption	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
66	l_Underlier620330_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
67	l_Underlier515366_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
68	l_Underlier621199_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
69	l_Underlier621369_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
70	l_Underlier513787_TurboBinaryOption	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
71	l_Underlier515811_TurboBinaryOption	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
72	l_Underlier621189_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
73	l_Underlier621323_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
74	l_Underlier514363_TurboBinaryOption	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
75	l_Underlier621131_TurboBinaryOption_Redeemer	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
76	l_Underlier507766_HamaBinaryOption	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10
77	l_Underlier511395_TurboBinaryOption	0	JPY_USD_Binary	2003-07-10	IntFXMO	2003-07-10

Figure 2a

200

202 Steps	204 Query Tree	206 Choice	208 No. Trees
1	**?-210**	resultCashflow **resultMTM-212** resultPosition	11,187,650
2	resultMTM-212 finObject=? vc=? mtm=? **businessDate=?-214** status=? provenance=?	2Jul2003 3Jul2003 4Jul2003 7Jul2003 8Jul2003 9Jul2003 10Jul2003 11Jul2003 **14Jul2003-216**	4,780,652
3	resultMTM-212 finObject=? **vc=?-218** mtm=? businessDate=14Jul2003 status=? provenance=?	**vc-220**	522,404
4	resultMTM finObject=? vc=vc-218 **env=?-222** valueDate=? scenarioLabel=? scenarioID=? mtm=? businessDate=14Jul2003 status=? provenance=?	**baseEnv-224** perturbEnv regenEnv replaceEnv	522,404
5	resultMTM **finObject=?-226** vc=vc env=baseEnv date=? name=? valueDate=? scenarioLabel=? scenarioID=? mtm=? businessDate=14Jul2003 status=? provenance=?	**trade-228**	15,956

Figure 2b

Steps (202)	Query Tree (204)	Choice (206)	No. Trees (208)
6	resultMTM finObject=trade name=? version=? book=? **portfolio=?-230** vc=vc env=baseEnv date=? name= valueDate=? scenarioLabel=? scenarioID=? mtm=? businessDate=14Jul2003 status=? provenance=?	I_OFFICIAL_INTFX_Fx_Fwds I_OFFICIAL_INTFX_Fx_Options I_OFFICIAL_INTFX_MultiCey_Swap I_OFFICIAL_INTFX_SingleCcy_Swap I_OFFICIAL_INTFX_Vanilla_Turbos **JPY_USD_Binary-232** JPY_USD_Binary_StepDown JPY_USD_Non_Capped_KO MultiCcy_Binary USD_JPY_Capped_Turbos_Callable	15,956
7	resultMTM finObject=trade name=? version=? book=? portfolio=JPY_USD_Binary vc=vc env=baseEnv date=? name=? valueDate=? scenarioLabel=? scenarioID=? mtm=? businessDate=14Jul2003 status=? provenance=?		126

Figure 2c

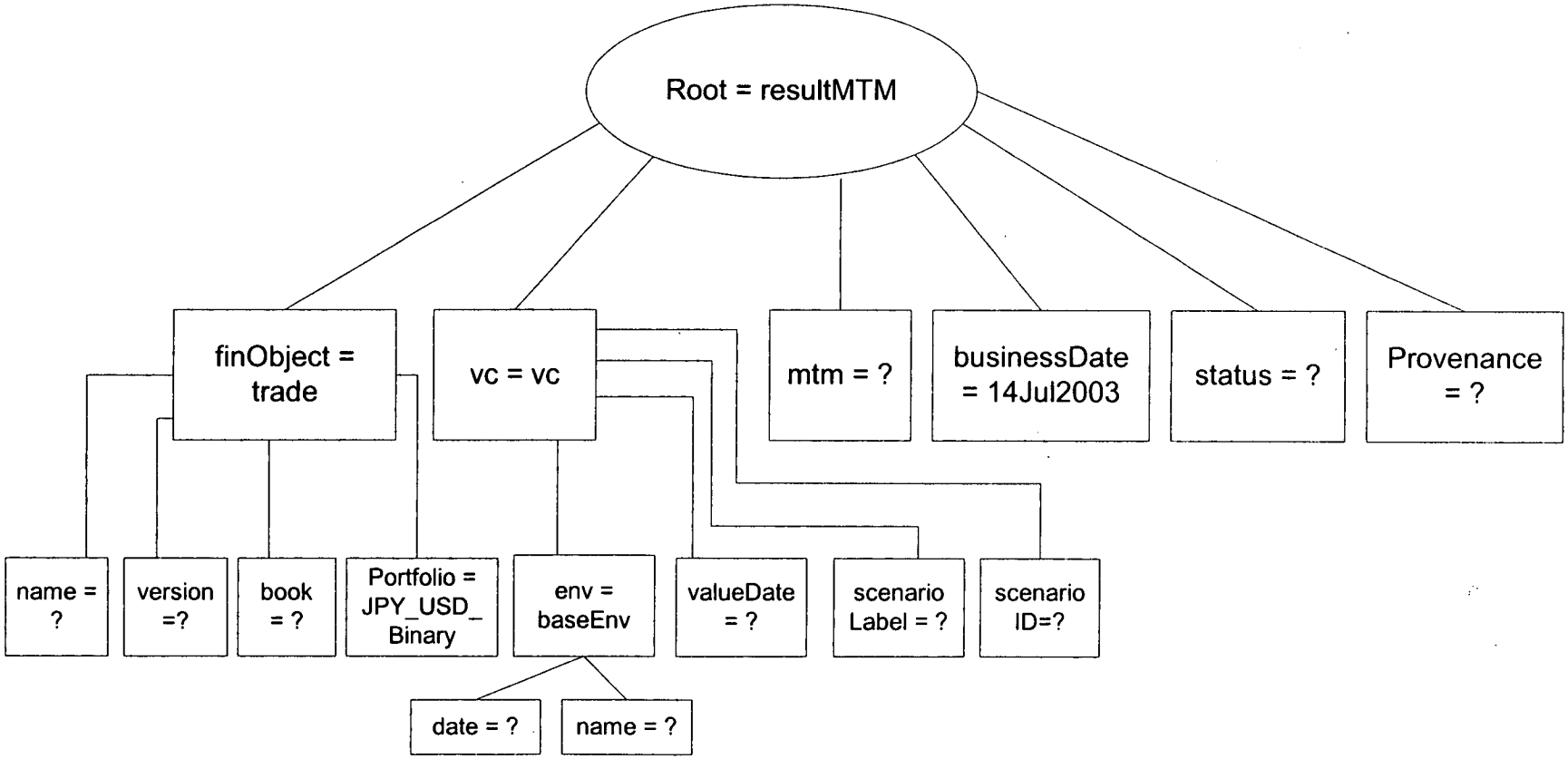
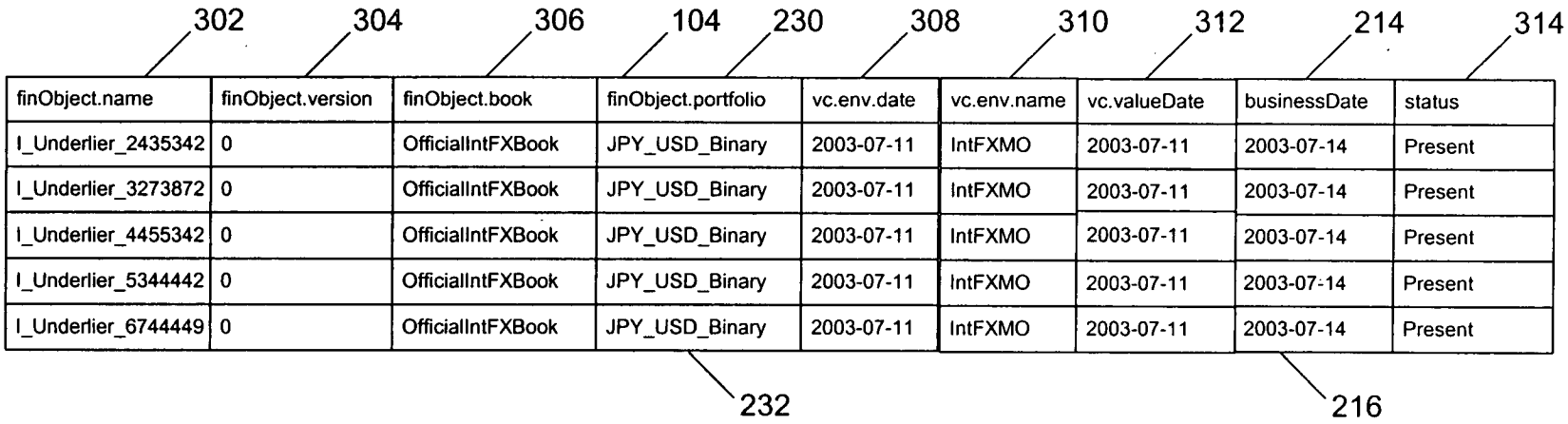

Root = resultMTM
finObject = trade
vc = vc
mtm = ?
businessDate = 14Jul2003
status = ?
Provenance = ?
name = ?
version =?
book = ?
Portfolio = JPY_USD_ Binary
env = baseEnv
valueDate = ?
scenario Label = ?
scenario ID=?
date = ?
name = ?

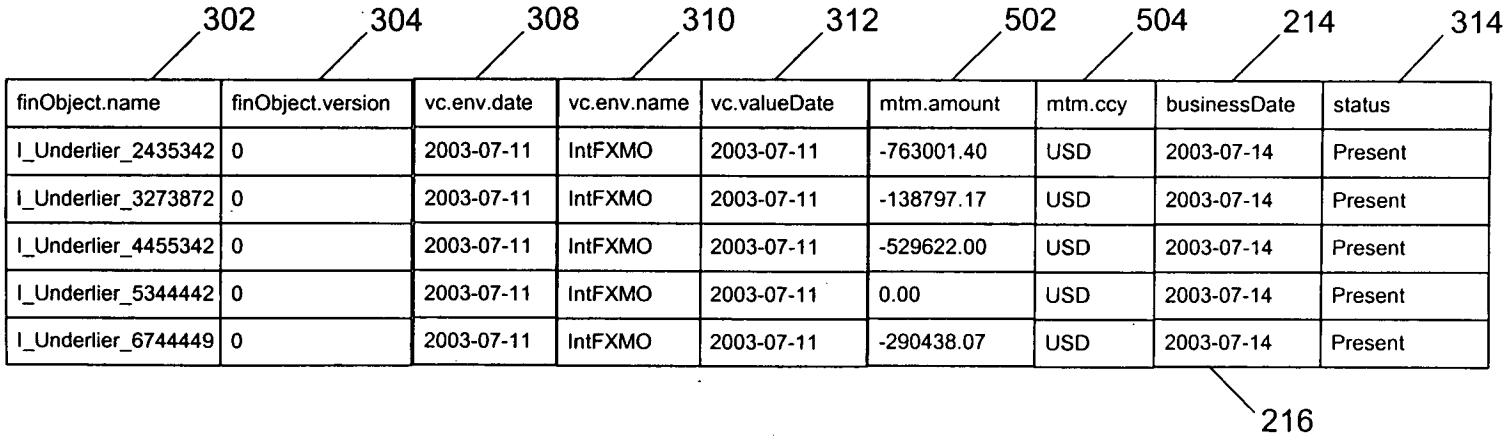
Figure 3



302 finObject.name	304 finObject.version	306 finObject.book	104 finObject.portfolio	230 vc.env.date	308 vc.env.name	310 vc.valueDate	312 businessDate	214 status	314
I_Underlier_2435342	0	OfficialIntFXBook	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11	2003-07-14	Present	
I_Underlier_3273872	0	OfficialIntFXBook	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11	2003-07-14	Present	
I_Underlier_4455342	0	OfficialIntFXBook	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11	2003-07-14	Present	
I_Underlier_5344442	0	OfficialIntFXBook	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11	2003-07-14	Present	
I_Underlier_6744449	0	OfficialIntFXBook	JPY_USD_Binary	2003-07-11	IntFXMO	2003-07-11	2003-07-14	Present	

232 216

Figure 5



302 finObject.name	304 finObject.version	308 vc.env.date	310 vc.env.name	312 vc.valueDate	502 mtm.amount	504 mtm.ccy	214 businessDate	314 status
I_Underlier_2435342	0	2003-07-11	IntFXMO	2003-07-11	-763001.40	USD	2003-07-14	Present
I_Underlier_3273872	0	2003-07-11	IntFXMO	2003-07-11	-138797.17	USD	2003-07-14	Present
I_Underlier_4455342	0	2003-07-11	IntFXMO	2003-07-11	-529622.00	USD	2003-07-14	Present
I_Underlier_5344442	0	2003-07-11	IntFXMO	2003-07-11	0.00	USD	2003-07-14	Present
I_Underlier_6744449	0	2003-07-11	IntFXMO	2003-07-11	-290438.07	USD	2003-07-14	Present

216

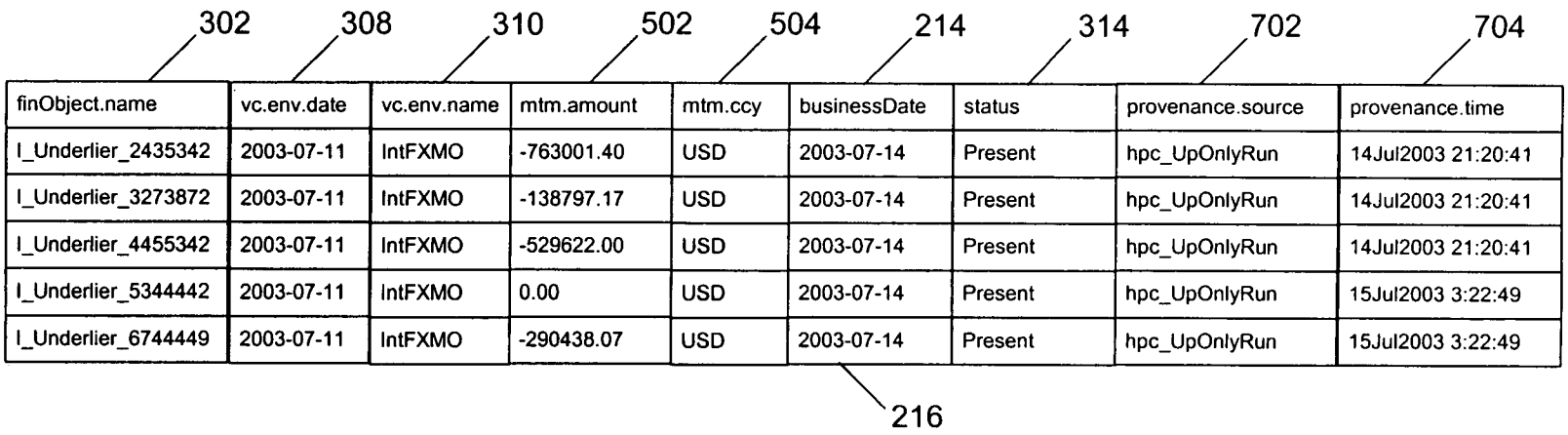
Figure 4

202 Steps	204 Query Tree	206 Choice	208 No. Trees
8	resultMTM finObject=trade name=? version=? book=? portfolio=JPY_USD_Binary vc=vc env=baseEnv date=? name=? valueDate=? scenarioLabel=? scenarioID=? **mtm=-402** businessDate=14Jul2003 status=? provenance=?	**money-404**	126
9	resultMTM finObject=trade name=? version=? book=? portfolio=JPY_USD_Binary vc=vc env=baseEnv date=? name=? valueDate=? scenarioLabel=? 402 scenarioID=? mtm=money-404 amount=?-502 ccy=?-504 businessDate=14Jul2003 status=? provenance=?		126

Figure 6

202 Steps	204 Query Tree	206 Choice	208 No. Trees
10	resultMTM finObject=trade name=? version=? book=? portfolio=JPY_USD_Binary vc=vc env=baseEnv date=? name=? valueDate=? scenarioLabel=? scenarioID=? mtm=money amount=? ccy=? businessDate=14Jul2003 status=? **provenance=-602**	**provenance-604**	126
11	resultMTM finObject=trade name=? version=? book=? portfolio=JPY_USD_Binary vc=vc env=baseEnv date=? name=? valueDate=? scenarioLabel=? scenarioID=? mtm=money amount=? ccy=? businessDate=14Jul2003 status=? provenance=provenance source=? time=?		126

Figure 7



finObject.name	vc.env.date	vc.env.name	mtm.amount	mtm.ccy	businessDate	status	provenance.source	provenance.time
I_Underlier_2435342	2003-07-11	IntFXMO	-763001.40	USD	2003-07-14	Present	hpc_UpOnlyRun	14Jul2003 21:20:41
I_Underlier_3273872	2003-07-11	IntFXMO	-138797.17	USD	2003-07-14	Present	hpc_UpOnlyRun	14Jul2003 21:20:41
I_Underlier_4455342	2003-07-11	IntFXMO	-529622.00	USD	2003-07-14	Present	hpc_UpOnlyRun	14Jul2003 21:20:41
I_Underlier_5344442	2003-07-11	IntFXMO	0.00	USD	2003-07-14	Present	hpc_UpOnlyRun	15Jul2003 3:22:49
I_Underlier_6744449	2003-07-11	IntFXMO	-290438.07	USD	2003-07-14	Present	hpc_UpOnlyRun	15Jul2003 3:22:49

Figure 8

Tree 1

802-perturbation = tweak-804
    806-curve = ?

    808-point = ?

    810a-tweakSpec = tweakSpec-810b
        812-spec = perturbationSpec-814
            816-direction = "UP"
            818-amount = "1"

Tree 2

802-perturbation = tweak-804
    806-curve = irCurve-820
        823-ccy = "USD"

    808-point = curvePoint-828
        830-maturity = "1Y"

    810a-tweakSpec = tweakSpec-810b
        812-spec = perturbationSpec-814
            816-direction = "UP"
            818-amount = "1"

Tree 3

802-perturbation = tweak-804
    806-curve = irSwaptionVol-824
        822-ccy = "USD"
        826-index = "SWAP"
    808-point = irVolPoint-832
        830-maturity = "1Y"
        834-tenor = ?
    810a-tweakSpec = tweakSpec-810b
        812-spec = perturbationSpec-814
            816-direction = "UP"
            818amount = "1"

Tree 4

802-perturbation = tweak-804
    806-curve = irSwaptionVol-824
        822-ccy = "USD"
        826-index = ?
    808-point = irVolPoint-832
        830-maturity = "1Y"
        834-tenor = ?
    810a-tweakSpec = _

Figure 9

Tree 1	Tree 2	Result
802-perturbation=tweak-804 806-curve=irSwaption Vol.-824 822-ccy="AUD" 826-index="SWAP" 808-point =irVolPoint-832 830-maturity="1Y" 834-tenor="5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"	802-perturbation=tweak-804 806-curve=? 808-point =irVolPoint-832 830-maturity="1Y" 834-tenor="5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"	802-perturbation=tweak-804 806-curve=irSwaption Vol.-824 822-ccy="AUD" 826-index="SWAP" 808-point =irVolPoint-832 830-maturity="1Y" 834-tenor="5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"

Figure 10

Tree 1	Tree 2	Result
802-perturbation = tweak-804 806-curve = irSwaptionVol-824 822-ccy= "AUD" 826-index = "SWAP" 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"	802-perturbation = tweak-804 806-curve = __ 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"	802-perturbation = tweak 806-curve = _ 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"

Figure 11

Tree 1	Tree 2	Result
802-perturbation = tweak-804 806-curve = irSwaptionVol-824 822-ccy= "AUD" 826-index = "SWAP" 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec 816-direction = "UP" 818-amount = "1"	802-perturbation = tweak-804 806-curve = ? 808-point = __ 810a-tweakSpec = ?	802-perturbation = tweak-804 806-curve = irSwaptionVol-824 822-ccy = "AUD" 826-index = "SWAP" 808-point = __ 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"

Figure 12

Tree 1	Tree 2	Result
802-perturbation = tweak-804 806-curve = irSwaptionVol-824 822-ccy= "AUD" 826-index = "SWAP" 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec 816-direction = "UP" 818-amount = "1"	802-perturbation = tweak-804 806-curve = ? 808-point = ? 810a-tweakSpec =__	802-perturbation = tweak-804 806-curve =? 808-point = ? 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"

Figure 13

Tree 1	Tree 2	Tree 3
802-perturbation = tweak-804 806-curve = irCurve-820 823-ccy= "USD" 808-point = curvePoint-828 830-maturity = "1Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"	802-perturbation = tweak-804 806-curve = irSwaptionVol-824 822-ccy = "USD" 826-index = "SWAP" 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "2Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"	802-perturbation = tweak-804 806-curve = irSwaptionVol-824 822-ccy= "AUD" 826-index = "SWAP" 808-point = irVolPoint-832 830-maturity = "1Y" 834-tenor = "5Y" 810a-tweakSpec = tweakSpec-810b 812-spec = perturbationSpec-814 816-direction = "UP" 818-amount = "1"

Figure 14

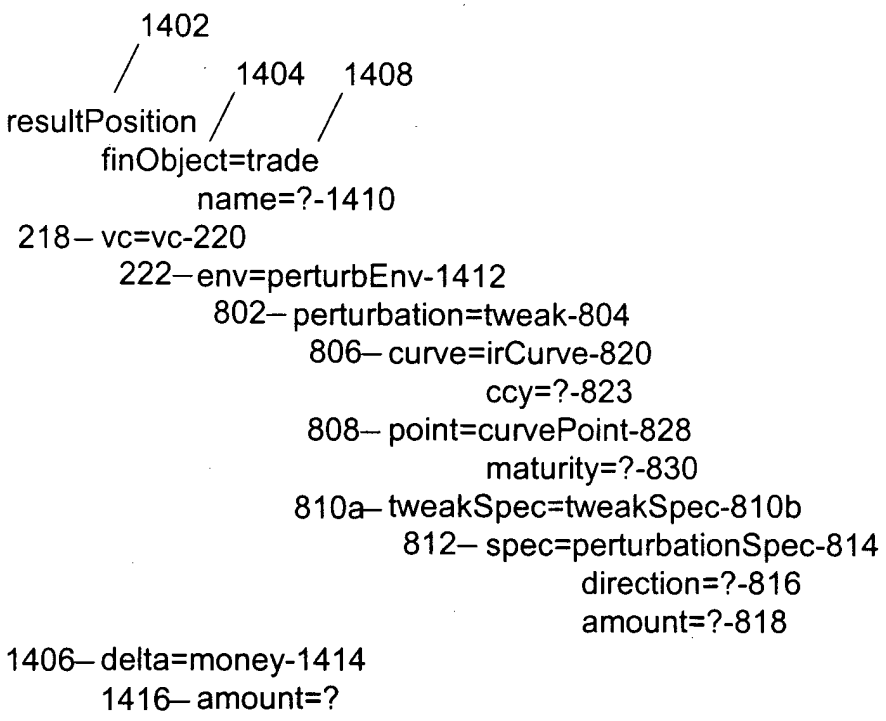


Figure 15

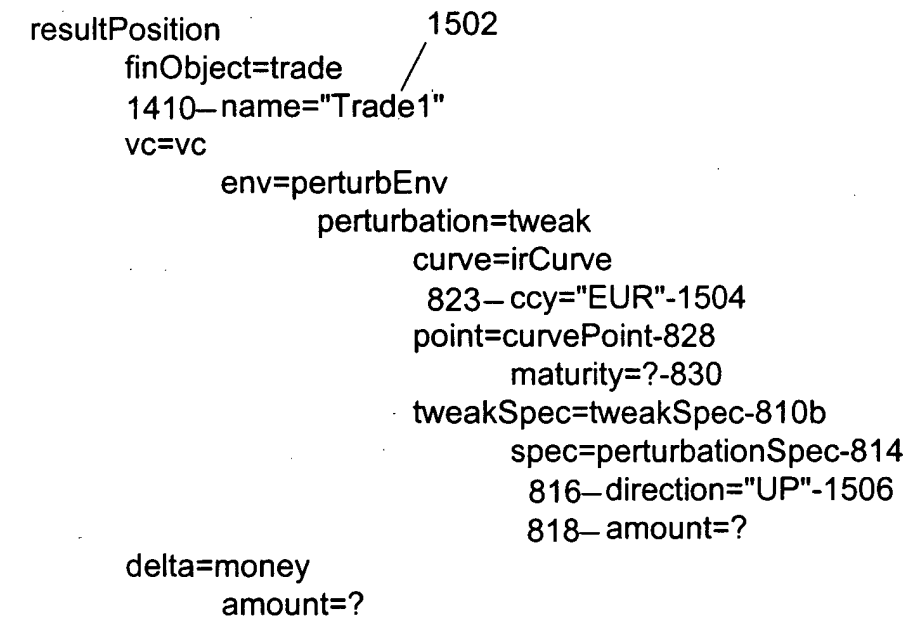


Figure 16

```
resultPosition
        finObject=trade
        1410–name=_
        vc=vc
                env=perturbEnv
                        perturbation=tweak
                                curve=irCurve
                                        ccy=_-823
                         808–point=?
                                tweakSpec=tweakSpec
                                        spec=perturbationSpec-814
                                         816–direction=_
                                         818–amount=?
1406–delta=money-1414
        1416–amount=?
```

Figure 17

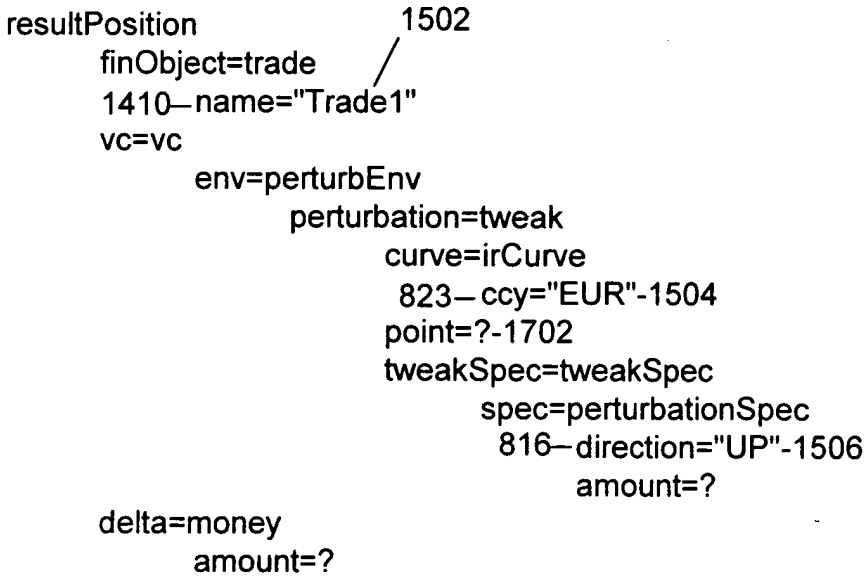


Figure 18

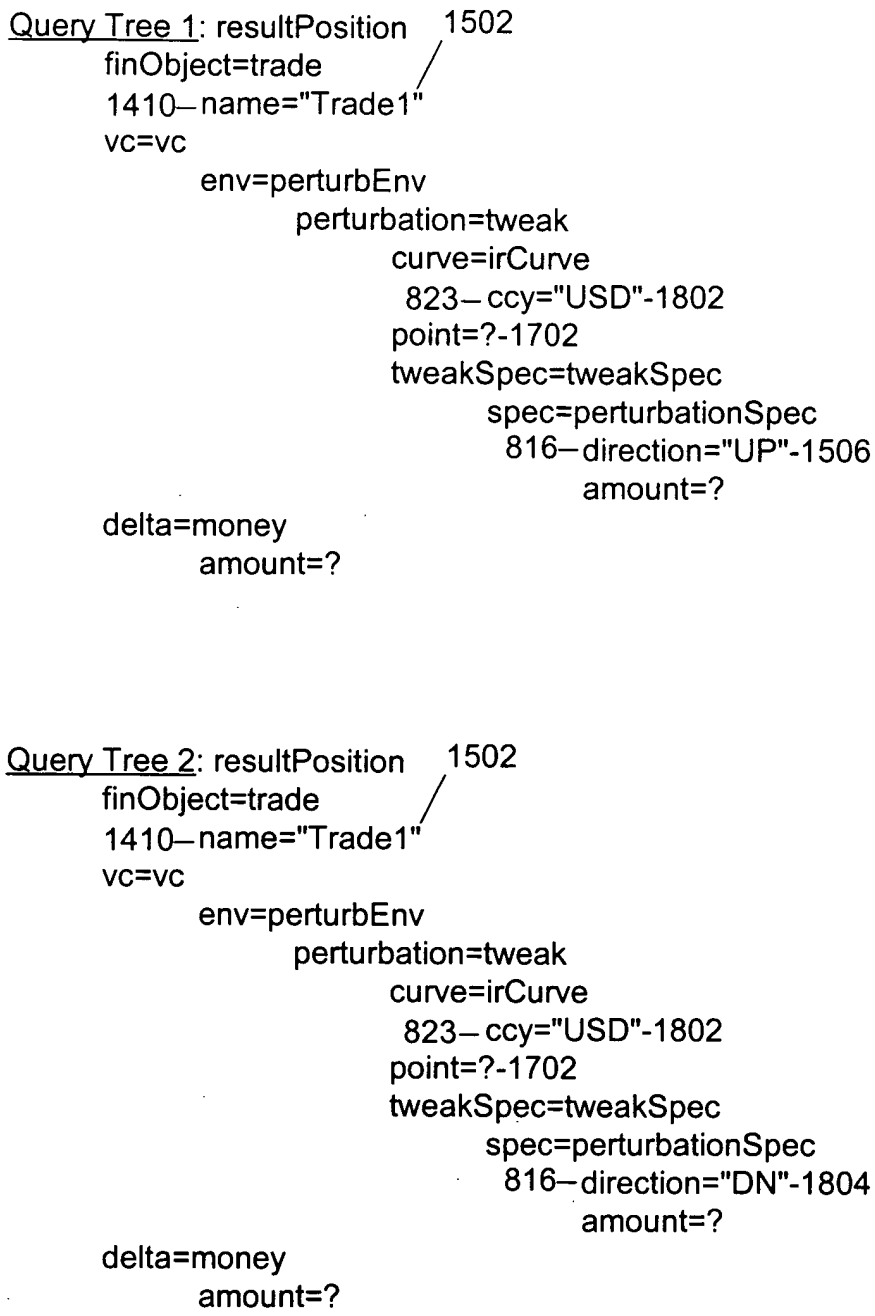

Query Tree 1: resultPosition
1502
finObject=trade
1410–name="Trade1"
vc=vc
env=perturbEnv
perturbation=tweak
curve=irCurve
823–ccy="USD"-1802
point=?-1702
tweakSpec=tweakSpec
spec=perturbationSpec
816–direction="UP"-1506
amount=?
delta=money
amount=?
Query Tree 2: resultPosition
1502
finObject=trade
1410–name="Trade1"
vc=vc
env=perturbEnv
perturbation=tweak
curve=irCurve
823–ccy="USD"-1802
point=?-1702
tweakSpec=tweakSpec
spec=perturbationSpec
816–direction="DN"-1804
amount=?
delta=money
amount=?

Figure 19

```
resultPosition
        finObject=trade
                name=?
        vc=vc
                env=perturbEnv
                        perturbation=tweak
                         806– curve=_
                                point=?
                                tweakSpec=tweakSpec
                                        spec=perturbationSpec
                                                direction=_
                                                amount=?
        delta=money
                amount=?
```

Figure 20

```
resultPosition
        finObject=trade
                name=?
        vc=vc
                env=perturbEnv
                        perturbation=tweak
                         806– curve=irSwaptionVol-824
                                 822–ccy="AUD"-2002
                                 826–index="SWAP"-2004
                                point=?
                                tweakSpec=tweakSpec
                                        spec=perturbationSpec-814
                                         816– direction="UP"-1506
                                                amount=?
        delta=money
                amount=?
```

Figure 21

```
resultPosition
        finObject=trade
        1410–name=_
        vc=vc
                env=perturbEnv
                 802–perturbation=tweak-804
                        806–curve=_
                        808–point=_
                                tweakSpec=tweakSpec
                                        spec=perturbationSpec
                                         816–direction=_
                                                amount=?
        delta=money
                amount=?
```

Figure 22

```
resultPosition                  2204
        finObject=trade        /
        1410–name="Trade2"
        vc=vc
                env=perturbEnv
                        perturbation=tweak
                         806–curve=irCurve-820
                                 823–ccy="EUR"-1504
                         808–point=curvePoint-828
                                 830–maturity="3Y"-2202
                                tweakSpec=tweakSpec
                                        spec=perturbationSpec
                                         816–direction="UP"-1506
                                                amount=?
        delta=money
                amount=?
```

Figure 23

```
resultPosition
        finObject=trade
                name=_
        vc=vc
                env=perturbEnv
                        perturbation=tweak
                                curve=irCurve
                                        ccy=_
                                tweakSpec=tweakSpec
                                        spec=perturbationSpec
                                                direction=_
        delta=money
```

Figure 24

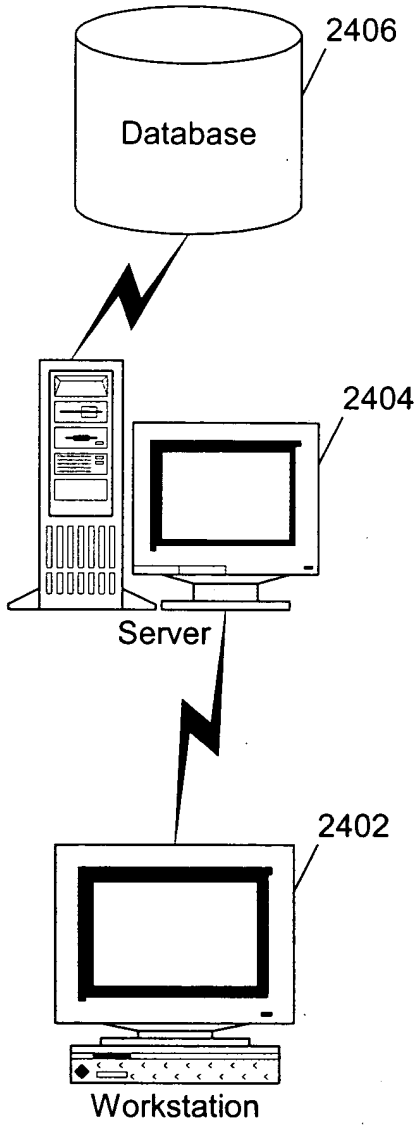
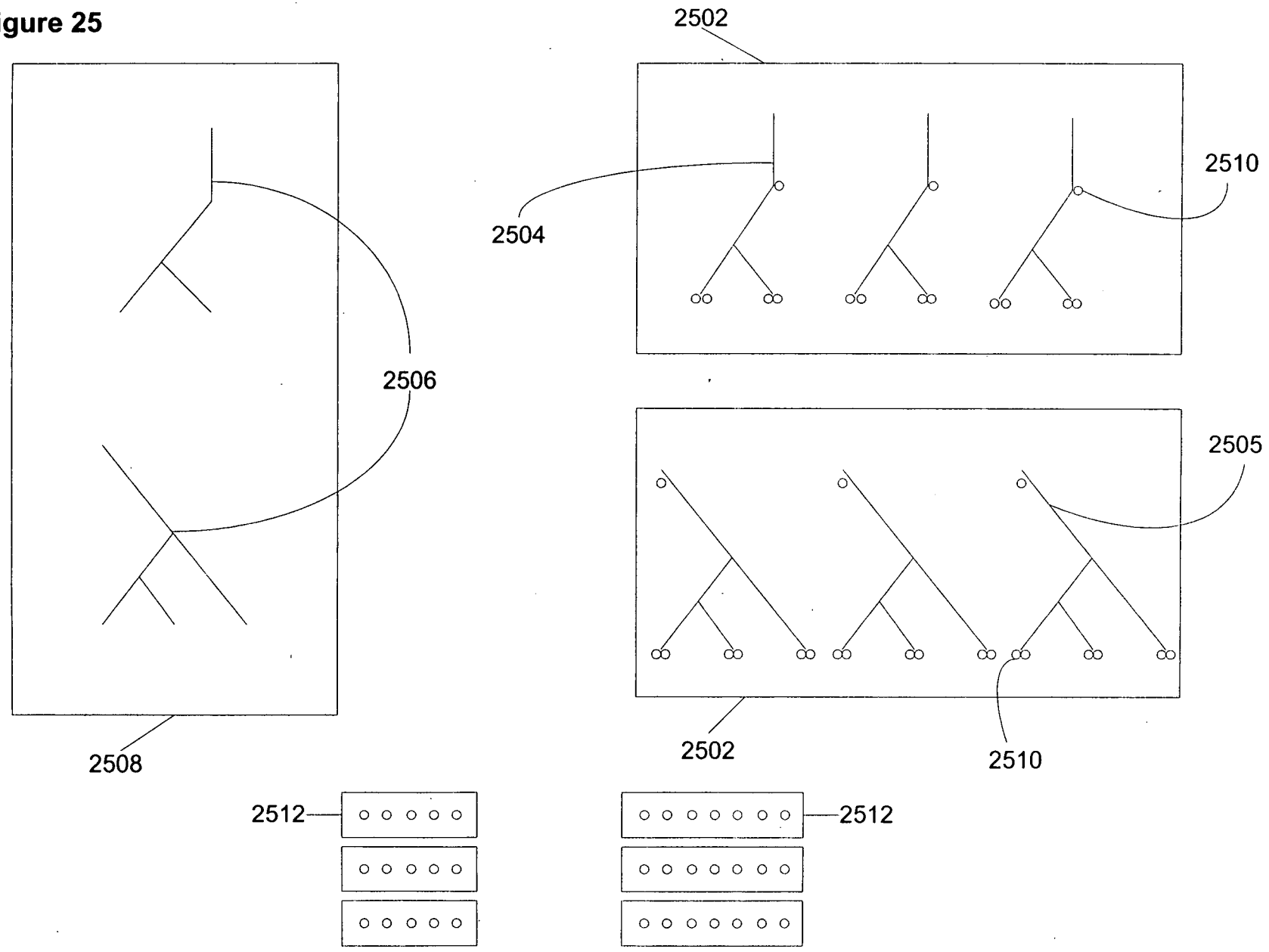



Figure 25